

6. On a Collection of Mammals from Western Java presented to the National Museum by Mr. W. E. Balston.
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Up to and during the earlier part of the last century no tropical country in the world had more attention paid to its zoology than the Island of Java, quite a considerable number of species being described from there, firstly by the French, who received specimens from Diard and Duvaucel, then by Dr. Thomas Horsfield, who in 1824, under the auspices of the East India Company, published a special work † on the subject, and finally by the Dutch authors Schlegel and Müller, who included many Javan animals in their general work ‡ on the Mammals of the East Indian Archipelago (1839-44).

But from the latter date to the present time almost nothing has been done, and but few specimens have been collected except those that have gone to Leyden; and workers in the other principal Museums have been often embarrassed by the absence of good Javan specimens, representing the early described species, for comparison with examples from other localities.

Of late, in the working out of Bornean and other Malay material, the want of Javan collections has been severely felt, and we are therefore proportionately indebted to Mr. W. E. Balston for enabling the well-known collector Mr. G. C. Shortridge to make a collecting-trip to Java after he had finished the work in Western Australia of which Thomas had previously given an account in our 'Proceedings.'

Mr. Shortridge found the island extremely favourable for collecting, and by the kind assistance of Mr. M. C. Kirkpatrick, of the Hongkong and Shanghai Bank, and of the local Museum authorities, he was enabled to visit many interesting localities and to make one of the finest collections that we have ever received from any one region.

In all, Mr. Shortridge obtained over 1500 specimens in the island, the majority of which, however, were Bats, a group in which Java is astonishingly rich. The species number 74, of which we have found it necessary to describe six as new. In addition, good series were obtained of a large number of species which were either not in the Museum collections at all, or else only represented by specimens from Dr. Horsfield's collection, which had been first to the East India Company's Museum and then transferred, mostly in 1879, to the British Museum. These, while of extreme value as types or historical specimens, are

* Published by permission of the Trustees of the British Museum.

† 'Zoological Researches in Java,' 1824.

‡ In Temminck's 'Verhandelingen over de Natuurlijke Geschiedenis der Nederlandsche overzeesche bezittingen,' 1839-44.

mostly too faded and deteriorated to be of much practical use in making comparisons.

For the present magnificent addition to the National Collection we have every reason to be most grateful to Mr. Balston, to whom we were already so heavily indebted for his W. Australian donations.

We have appended to the species Mr. Shortridge's notes on their habits, native names, and distribution.

1. HYLOBATES LEUCISCUS Schreb.

♂. 492. ♀. 486, 487. Tji Wangie, Preanger.

“ ‘Ooa-ōōa’ (Soendanese). ‘Wau-wāu’ (Malay).

“Local, apparently confined to the mountains of West Java; where it occurs its presence is easily detected by its continuous cry, which carries a long distance and of which its native name is an imitation.”—G. C. S.

2. PRESBYTIS PYRRHA Horsf.

Semnopithecus vel *Presbytis maurus* auctorum, nec Schreber.

♂. 1793. ♀. 1707 imm., 1709 imm., 1734 imm. Pandangan, Dirk de Vries Bay.

♂. 614. ♀. 615, 616 imm., 617 imm., 749, 787, 788 imm. Tjilatjap.

♂. 475, 493. ♀. 474, 479, 480. Tji Wangie, Preanger.

♀. 1521 imm., 1524 imm. Kalipoetjang, Tji-Tandoei River.

A comparison of this fine series, all black specimens, with the co-types of Horsfield's "*Semnopithecus pyrrhus*" does not confirm the conclusions as to the specific distinctness of the black and red forms of the group published by Dr. Jentink*. The skull of No. 22 *a*, one of the co-types of the red form, is exactly matched by Mr. Shortridge's No. 615, a black "*maurus*," in all the characters mentioned by Dr. Jentink, namely the size of the teeth, the degree of prognathism, the length of the palate, and the form of the chin. And the series shows that there is a good deal of variation in all of these characters. We are therefore compelled to adhere to the usual conclusion (which is confirmed by Mr. Shortridge's note) that the red monkey named *pyrrhus* by Horsfield is an abnormal red form of the usual black animal that has gone by the name of *maurus* or *maura*.

But, so far as names are concerned, the specific term *maura* Schreber, which has hitherto been used for this animal, should give place to *pyrrha*. For the primary basis of Schreber's *maura* was the "Middle-sized Black Monkey" of Edwards, whose plate and description show that it was not this species at all, but a West African Mangabey, possibly *Cercocebus fuliginosus* E. Geoff.

We do not think the evidence for the identification of Geoffroy's

* Notes Leyd. Mus. xiv. p. 119 (1892).

auratus (Ann. Mus. Hist. Nat. xix. p. 93, 1812) with this monkey is sufficient to justify us in using the name. No exact locality was given and the description might apply to any of the forms with pale yellow young, which occasionally keep the youthful pelage throughout life. Horsfield's *pyrrha*, though equally based on an abnormal specimen, is unquestionably this species.

“‘Lutoong’ (Soendanese and Javanese).

“Very plentiful. When first born the fur of the young is bright rufous, but soon becomes black as it grows older.

“Abnormal adult rufous individuals occasionally occur in which the black coat has never been assumed.”—G. C. S.

3. *PRESBYTIS AYGULA* L.

Semnopithecus vel *Presbytis mitratus* auctorum.

♂. 482 imm., 491. ♀. 476. 481. Tji Wangie, Preanger.

Linnaeus* based his *Simia aygula* on a monkey described by Osbeck† from Java, which can only have been the species to which the name *mitratus* has been usually applied.

“‘Soereli’ (Soendanese).

“Very much more local than the last species. It seems, like *Hylobates*, to be confined to the dense forests in the mountainous parts of West Java. When very young the markings resemble those of *P. comata* from Sumatra.”—G. C. S.

4. *MACACA FASCICULARIS* Raff.

♀. 21. Batavia.

♂. 1777. ♀. 1721, 1780. Pangandaran, Dirk de Vries Bay.

♂. 613. ♀. 783. Tjilatjap.

♂. 490. ♀. 470. Tji Wangie, Preanger.

♂. 1219. Tasikmalaja, Preanger.

♂. 1379, 1428. Kalipoetjang, Tji-Tandoei River.

“‘Munyet’ (Malay). ‘Kētēq’ (Javanese) (Soendanese).

“Very abundant throughout Java.”—G. C. S.

5. *NYCTICEBUS JAVANICUS* E. Geoff.

♂. 1371. Batavia.

“‘Mooka (Soendanese). Pookang (Javanese).

“Nocturnal; not plentiful.”—G. C. S.

6. *PTEROPUS VAMPIRUS* L.

♂. 22. ♀. 23. Batavia.

♂. 142. ♀. 143. Buitenzorg.

♂. 795, 933. ♀. 790, 794, 796, 797, 843, 934. Tjilatjap.

♂. 1004, 1146, 1159, 1223. Tasikmalaja, Preanger.

* Syst. Nat. (10) i. p. 27, 1758.

† Ostindisk Resa, p. 99, 1757.

♂. 1607, 1608, 1609, 1772, 1773, 1774, 1784, 1789. Pangandaran, Dirk de Vries Bay.

“ ‘Karlong’ (of natives).

“ Very plentiful except at high altitudes, especially where they have formed colonies. Flight slow and flapping, occasionally soaring like a bird. They seem to see fairly well by day, and when flying will dip like a crow to avoid a bullet. In the neighbourhood of their colonies there are generally a few flying around all day, while those on the trees are continually altering their positions and quarrelling among themselves, the peculiar screaming that they make being audible for a considerable distance. When disturbed they soon take to flight, circling round the trees like rooks, getting gradually up out of gunshot, although eventually returning to the same place. Many thousands generally collect in one colony, and the trees that they have chosen (which are generally high ones) present a very peculiar appearance, being almost entirely stripped of leaves, while the bats hang in full view in thousands from all the upper branches.”—G. C. S.

7. ROUSETTUS SHORTRIDGEL.

Thos. & Wrought. Abstr. P. Z. S. 1909, p. 19.

♂. 1905. Kalipoetjang, Tji-Tandoei R., S. Java. 5 March, 1908. B.M. No. 9.1.5.67. *Type*.

Most closely allied to the continental *R. leschenaulti* Desm. †, with which it agrees in having the posterior lower molar elongate instead of subcircular, as it is in *amplexicaudatus* Geoff. Size, however, much greater, the skull especially being markedly larger and heavier, and its crests more strongly developed. Teeth throughout larger and broader, the anterior lower premolar conspicuously larger than in the allied species.

Fur brown above, the hairs with lighter bases; hinder neck nearly naked, paler; a paler patch over the base of the tail. Below, the hairs are everywhere brown with lighter tips.

Dimensions of the type, the starred measurements taken in the flesh:—

Forearm 94 mm.

*Head and body 145; *tail 17; *ear 22; third finger, metacarpal 60, first phalanx 39, second phalanx 51; lower leg and hind foot (c. n.) 66.

Skull: greatest length 42, zygomatic breadth 26.2, interorbital breadth 8.9; supraorbital foramina to tip of nasals 20.5; breadth of brain-case 16.5; palate, breadth outside m^2 13; palation to incisive foramina 20.2: front of canine to back of m^2 16.1, length of m_2 2.

Type as above.

This fine Rousset is the largest of the Oriental species, its forearm exceeding those of *R. leschenaulti* and *amplexicaudatus*

† Cf. K. Andersen, Ann. Mag. N. H. (7) xix. pp. 501 et seq., 1907.

by more than 6 mm. Its skull is large and heavy, and its cranial ridges far more developed than in specimens of similar age of the allied forms. In company with it there lives the smallest eastern species, *R. minor*, such a difference in size no doubt tending to reduce competition, and therefore to enable such closely allied forms to live side by side.

R. shortridgei must be exceedingly rare, as getting all the fine series of bats now enumerated, including 34 of the previously almost unknown *R. minor*, Mr. Shortridge only obtained one single specimen of it.

8. ROUSETTUS MINOR Dobs.

♂. 1410, 1411, 1413, 1414, 1439, 1440, 1441, 1445, 1462, 1464, 1508, 1509.

♀. 1409, 1412, 1442, 1443, 1444, 1463, 1465, 1506, 1507, 1510, 1511, 1512.

Four males, six females in spirit.

Kalipoetjang, Tji-Tandoei R., S. Java.

This species has not hitherto been represented in the Museum collection, the only known example of it being the type, preserved in the Calcutta Museum. The present fine series of topotypes is therefore a most valuable accession to the National Collection.

“‘Tjödöt’ (Javanese) (as distinguished from insectivorous bats).

“The smaller fruit-bats are really much more plentiful than *Pteropus vampyrus*, but on account of their smaller size and late appearance in the evenings they are less noticeable. They also seldom roost by day in conspicuous positions, but generally collect in caves, hollow trees, or among dense foliage. When disturbed by day they will dart off sharply in every direction like insectivorous bats. The fruit-bats are a very serious pest in Java, on account of their enormous numbers, and it is chiefly on their account that so much of the fruit is picked green and not allowed to ripen on the trees.”—G. C. S.

9. CYNOPTERUS TITTHACHEILUS Temm.

♂. 8, 12. ♀. 7, 9, 11. Low-lying country, Batavia. And 1 ♀ in al.

♂. 38, 180. ♀. 83. Buitenzorg. 850'.

♂. 531, 532. ♀. 533. Soekaboemi. 2100'.

♂. 684, 687, 689, 690, 914. ♀. 688, 691, 692, 693, 912, 913, 915, 916. Tjilatjap. Sea-level.

♀. 1062. Tasikmalaja, Preanger. 1145'.

The Buitenzorg specimens are absolute topotypes of this fine species, which had not previously been represented in the Museum collection.

Young specimens of *C. titthacheilus* are of a brownish-grey colour, and in other respects have a general likeness to *Rousettus*, for members of which genus they were at first mistaken.

10. *CYNOPTERUS HORSFIELDI* Gray.

♂. 82, 99, 100, 103, 105, 108, 123, 125. ♀. 80, 85, 87, 93, 102, 104, 107, 109, 124. Buitenzorg. 850'.

♂. 671, 778, 784, 818, 849, 861, 911. ♀. 777, 835, 848, 944. Tjilatjap. Sea-level. 1 ♂, 6 ♀ in al.

♀. 1650, 1652. Pangandaran, Dirk de Vries Bay.

♂. 1136. ♀. 1042, 1061, 1137, 1288, 1289. Tasikmalaja, Preanger. 1145.

We use provisionally Gray's name for this Bat, as being unquestionably pertinent to it, but there are several earlier names, based on specimens from Sumatra and elsewhere, which may hereafter prove to be applicable to it. Why Mr. Glover Allen*, in writing of Javan specimens, should use the name *brachysoma* Dobson, when he knew of the 30 years' earlier *horsfieldi*, we do not quite understand.

The males of the Tjilatjap series are particularly brilliantly coloured.

11. *MACROGLOSSUS MINIMUS* Geoff.

♂. 677, 678, 755, 773, 774, 775, 817, 827, 834, 844, 845, 880, 889, 891.

♀. 670, 676, 700, 776, 785, 816, 832, 833, 890, 903. Tjilatjap. Sea-level.

♀. 1006, 1011. Tasikmalaja, Preanger. 1150'.

“‘Tjödöt-mērah’ (Javanese). ‘Tjödöt-pisang’ (Javanese).

“Local, very abundant around Tjilatjap.

“Tongue highly extensile, but probably adapted merely for extracting the pulp from ripe fruit. None of the specimens examined had traces of insects in their stomach. They may be partly honey-eaters. Tail normally 2 to 3 millimetres in length, but frequently entirely rudimentary externally.

“Fully adult specimens of both sexes have a peculiar crescent-shaped gland on the lower part of the throat.”—G. C. S.

12. *RHINOLOPHUS BORNEENSIS* Peters.

♀. 875. Tjilatjap.

♂. 1632. ♀. 1655, 1692. Pangandaran, Dirk de Vries Bay, S. Java.

No member of this group of *Rhinolophus* had previously been known from Java.

The posterior process of the nose-leaf is particularly short in these specimens.

“‘Kampret’ (Malay). ‘Lalli’ (Soendanesse). ‘Tjödöt’ (Javanese) (generally only the smaller fruit-bats). ‘Bööerong-tēkoös’ (bird-mouse). ‘Lawo’ (Javanese).

“Most of the larger insectivorous bats are cave-dwellers, but many of the smaller species hide by day in hollow bamboos,

* Bull. Mus. Harv. lii. p. 25, 1908.

especially in those used in constructing the roofs of houses, and occasionally in the rolled up young leaves of bananas, hollow trees, crevices among rocks, etc."—G. C. S.

13. RHINOLOPHUS AFFINIS Horsf.

♂. 514. ♀. 510, 512, 513, 515, 517, 518. Kottamanah Cave, Soekaboemi. 2100'.

♂. 509. ♀. 516 (in spirit). Do.

♂. 696. Tjilatjap. Sea-level.

♂. 1432, 1433, 1435. ♀. 1434, 1436, 1437, 1461, 1470, 1471, 1472, 1473. Kalipoetjang, Tji-Tandoei R., S. Java.

♂ and 3 ♀ in spirit. Do.

The present fine collection adds considerably to our knowledge of the Javan species of the genus *Rhinolophus*, for while in Dr. K. Andersen's important account of the genus* only six species are recorded from the island (*affinis*, *pusillus*, *acuminatus*, *trifolius*, *luctus*, and *geminus*), no less than three species are now added to the list (viz. *sthenos*, *borneensis*, and *canuti*)—thus bringing the total up to nine.

14. RHINOLOPHUS ACUMINATUS Pet.

♂. 24, 95, 98. ♀. 76, 86, 88, 89, 91, and ♀ in al. Buitenzorg. 850'.

♂. 1171, 1172, 1176, 1177, 1178, 1180, 1183. ♀. 1170, 1173, 1174, 1175, 1179, 1181, 1182, 1184, 1185. Tasikmalaja, Preanger. 1150'.

3 ♂, 5 ♀ in spirit. Do.

With the exception of one more rufous individual, these specimens are all dark smoky grey, while in *affinis* the usual colour is more or less buffy. Some few individuals of the latter, however, approximate to the colour of *acuminatus*.

It is noticeable that the two species were not obtained at any one locality, as though they competed with each other too closely to live in the same districts.

15. RHINOLOPHUS STHENOS K. Anders.

♂. 1476, 1493. ♀. 1429, 1475. Kalipoetjang, Tji-Tandoei R., S. Java.

Described by Dr. Andersen from the Malay Peninsula†, and afterwards recorded by him from Sumatra‡.

These specimens are all of a more or less buffy or fulvous colour, while the skins of *Rh. borneensis* are uniformly dark grey. Even on the dried skins *Rh. sthenos* may be distinguished from *Rh. borneensis* by the much longer posterior lancet of its nose-leaf.

* Ann. Mag. N. H. (7) xvi. p. 656, 1905.

† P. Z. S. 1905, ii. p. 91.

‡ Ann. Mus. Genov. (3) iii. p. 24, 1907.

16. RHINOLOPHUS PUSILLUS Temm.

R. minor Horsf., nec *Vespertilio ferrum-equinum minor* Kerr (1792), which is a *Rhinolophus*.

♀. 504. Kottamanar Cave, Soekaboemi. 2100'.

♀. 1236. Tasikmalaja, Preanger. 1145'.

♀. 1477. Kalipoetjang, Tji-Tandoei R., S. Java.

17. RHINOLOPHUS CANUTI.

Thos. & Wrought. Abstr. P. Z. S. 1909, p. 18.

♂. 1431, 1474. ♀. 1430, 1504. Kalipoetjang, Tji-Tandoei River, S. Java. 2 & 4 March, 1908.

Closely allied to *Rh. creaghi* Thos., described in 1896 from N. Borneo*, but distinguished by the following characters:—The usual connecting-process between the sella and the posterior lancet, obsolete (as a unique character) in *creaghi*, is here represented by a narrow crest on the hinder side of the sella, less than 1 mm. in depth, and joining the posterior process low down; therefore very different from the usual high connecting-process, between which and the obsolete one of *creaghi* it forms an intermediate stage; the upper profile of the crest is evenly rounded above and joins the top of the front face of the sella at a sharp angle, without any intervening notch such as is usually formed by the front surface of the sella projecting a little higher upwards than the anterior point of the connecting-process. The tuft of hair on the front face of the posterior process is very much longer and more abundant, hiding the posterior end of the connecting-process, and forming a most striking and prominent feature of the bat: the hairs forming the tufts are shining golden yellow, and cover the whole middle part of the posterior leaf, some of them also going on the sides of the connecting-process and on the back of the sella; there are also fine tufts of hair on each side at the junction of the horseshoe with the outer bases of the posterior process. The skull is essentially similar to that of *creaghi* in the development and shape of the rostral projection, which is, however, slightly higher, and has its front edge vertically above the anterior part of p^1 , while in *creaghi* that edge is over the back of the same tooth, the canine-bearing part of the jaw in front of the projection appearing therefore to be longer in *creaghi* than in *canuti*.

P^1 in the tooth-row; p_3 minute, external, p_1 and p_4 touching each other internal to it; in one jaw out of eight it is absent.

Forearm 50 mm. Length of skull from occiput to front of canine 22.5.

Head and body 65 mm.; tail 22; ear 24.

Hab. as above.

* Ann. Mag. N. H. (6) xviii. p. 244. In the eighth line of this description, for the word "sella" read "posterior process." The second lower premolar (p_3), said to be "entirely absent," proves, on the skull being cleaned, to be present on one side, though excessively minute.

Type. Adult male. B.M. No. 9.1.5.183. Original number 1431. Collected 2 March, 1908.

We have named this striking species of *Rhinolophus*, which connects the aberrant *R. creaghi* with the more normal species of the genus, in honour of Dr. Knud Andersen, in recognition of the exhaustive work he has done on this complicated and difficult group.

18. *HIPPOSIDEROS DIADEMA* Geoff.

♂. 1126, 1147, 1302, 1303. ♀. 1296, 1301. Tasikmalaja, Preanger. 1150'.

♂. 1383, 1403, 1406, 1407, 1422, 1423, 1494, 1515. ♀. 1405, 1421, 1424. Kalipoetjang, Tji-Tandoei R., S. Java.

♂. 1603. Pangandaran, Dirk de Vries Bay, S. Java.

Representative of *H. nobilis* Horsfield.

19. *HIPPOSIDEROS BICOLOR* Temm.

♀. 499, 500, 505. Kottamanah Cave, Soekaboemi. 2100'.

♀ in al. Tjilatjap.

20. *HIPPOSIDEROS LARVATUS* Horsf.

♂. 1385, 1386, 1391, 1446. ♀. 1384, 1387, 1388, 1389, 1390, 1392, 1447, 1448. Kalipoetjang, Tji-Tandoei R., S. Java.

♂. 1604, 1647, 1653, 1674, 1675, 1679. ♀. 1605, 1648, 1649, 1677, 1678, 1680, and 10 specimens (4 ♂, 6 ♀) in spirit. Pangandaran, Dirk de Vries Bay, S. Java.

The forearms of these specimens run from 55 to 59 mm. in length. Dobson gives 2.45 in. (=62.5 mm.).

Of the 24 individuals in skin, four (all females) are strongly suffused with yellowish.

21. *CÆLOPS FRITHII* Bly.

♂. 1024, 1025, 1026. Tasikmalaja, Preanger. 1145'.

Topotypes of *C. bernsteini* Peters.

These examples of this exceedingly rare Bat are particularly welcome, as representing Peters's *C. bernsteini*, which is not improbably distinguishable from Blyth's *C. frithii*. But pending further investigations we use the name adopted by Dobson.

The recently described *C. robinsoni* Bonh., from Selangore, is much smaller than either.

22. *MEGADERMA SPASMA TRIFOLIUM* Geoff.

♂. 74. Buitenzorg. 850'.

♂. 853, 856, 863, 866, 870, 874, 878, 894. ♀. 695, 739, 854, 855, 857, 858, 865, 867, 868, 869, 871, 872, 873, 879, 892, 893. Tjilatjap.

♂. 1155. Tasikmalaja, Preanger. 1150'.

23. *PETALIA JAVANICA* Geoff.

♀. 81, 90, 97. Buitenzorg. 850'.

♂. 643, 649, 650, 651, 652, 655, 656, 657, 658, 659, 662.
♀. 642, 644, 645, 647, 653, 654, 661, 663. Cave on sea-coast, Tjilatjap. And 1 ♂ and 11 ♀ in al.

♂. 1029, 1030. ♀. 1027, 1028. Tasikmalaja, Preanger.

Although the general colour of these specimens varies considerably, from grey to fulvous, yet the latter colour is no more dominant or intense in the males than in the females, as might perhaps have been expected.

Dobson's record of "Timor" for an example of this species is in all probability erroneous, as the specimen was purchased from a dealer, and the entry of its locality in the register is somewhat ambiguous.

24. *TYLONYCTERIS PACHYPUS* Temm.

♂. 41, 42. ♀. 94, 132. Buitenzorg. 20 ♂ and 42 ♀ in al.

♂. 520, 527. ♀. 521, 526, 528. Soekaboemi.

♂. 993, 995, 999, 1093. ♀. 978, 980, 982, 996, 997, 998, 1850, 1078, 1140. Tasikmalaja.

25. *PIPISTRELLUS TRALATITIUS* Horsf.

♀. 5, 224. Batavia.

♂. 126, 185. ♀. 61, 181, 182, 183, 184. Buitenzorg.

♀. 530 and 18 specimens in al. Soekaboemi.

♂. 598, 600, 602, 605. ♀. 597, 599, 601, 606, 608, 609, 610, 611, 626, 627, 697, 698. 10 ♀ in al. Tjilatjap.

♂. 1000, 1001, 1229. ♀. 1035, 1055, 1056, 1200. Tasikmalaja.

This is the Bat for which Dobson uses the name *abramus* Temm., although Horsfield's name is earlier and one of the specimens the former enumerates (*w'*) he states to be labelled "Lowo-manir," the native Javanese name recorded in Horsfield's original description. Specimen A of Horsfield's 'Catalogue of the Indian Museum' (p. 39), now B.M. No. 79.11.21.124, may be considered as the type of *tralatitius*.

As elsewhere in the East, this Bat seems to be excessively common in Java.

26. *PIPISTRELLUS IMBRICATUS* Horsf.

♀. 756, 757, 758, 760. Tjilatjap.

27. *SCOTOPHILUS TEMMINCKII* Horsf.

♂. 35, 67, 69, 111, 118, 120, 121, 127, 128, 130, 137, 138.
♀. 68, 113, 114, 115, 116, 119, 129, 159. Buitenzorg. 850'.

♂. 225. Batavia.

♂. 524. ♀. 519, 525. Soekaboemi.

♂. 611, 806, 813, 829, 830, 831, 838, 839, 840. ♀. 805, 807, 808, 809, 827, 828, 836, 927. Tjilatjap.

♂. 972, 1091, 1161, 1207. ♀. 1092, 1204, 1206. Tasikmalaja, Preanger. 1150'.

We use the name *temminckii* for these bats, as being undoubtedly pertinent to them, pending such time as the type of *kukli* can be definitely assigned to one or other form of *Scotophilus*.

28. *MURINA BALSTONI* THOS.

Ann. Mag. N. H. (8) ii. p. 370. 1908.

♀. 1160. Tasikmalaja, Preanger, 1145. B.M. No. 9.1.5.354. *Type*.

This, the first new species distinguished of the fine Javan collection made by Mr. Shortridge, was named by Thomas after Mr. W. E. Balston, to whom the National Museum owes this magnificent addition to its collections.

The distinctive characters of *M. balstoni* are enumerated in the paper above referred to.

29. *HARPIOCEPHALUS HARPIA* Temm.

♂. 901, 902. ♀. 899, 900. Tjilatjap. 10 Dec., 1907.

♀. 1287. Tasikmalaja, Preanger. 1145'. 28 Jan., 1908.

Compared with these specimens the Himalayan form is obviously different by its darker and more chocolate colour. It should bear the name of *H. lasyurus* Hodgs.*, of which the Museum specimen No. 79.11.21.119 is the type. Horsfield's *Lasiurus pearsoni*, also from Darjiling, would be a synonym of it.

30. *MYOTIS* sp. (near *MURICOLA*).

♂. 26, 27, 96, 134, 140. ♀. 29, 135. 5 ♂ and 19 ♀ in al. Buitenzorg.

♂. 803, 885, 887. ♀. 802, 804, 886, 925. Tjilatjap.

♂. 977, 1162, 1191, 1193. ♀. 1139. Tasikmalaja, Preanger.

31. *MYOTIS* (*LEUCONOE*) *HASSELTII* Temm.

♂. 1017, 1054, 1069, 1070, 1071, 1072, 1073, 1090, 1100, 1101, 1102, 1103, 1104, 1106, 1111, 1112, 1113, 1114, 1192, 1194. ♀. 1074, 1105, 1107, 1108, 1109, 1110, 1132. Tasikmalaja, Preanger.

32. *MYOTIS* (*LEUCONOE*) *ADVERSUS* Horsf.

♀. 1621, 1622, 1623, 1637, 1638, 1639, 1640, 1643, 1651, 1656, 1657, 1658. ♀. 1614, 1615, 1616, 1617, 1618, 1619, 1624, 1633, 1641, 1644, 1645. Pangandaran, Dirk de Vries Bay.

33. *KERIVGULA PICTA* Pall.

♀. 819, 820. Tjilatjap. Sea-level. 27 Nov., 1907.

“‘Lawo-Kambang’ (Javanese).”—G. C. S.

* J. A. S. B. xvi. p. 896, 1847.

34. *KERIVOULA HARDWICKEI* Horsf.

♂. 14, 16. Batavia (in spirit).

♂. 1065, 1135. ♀. 1063, 1064, 1066, 1067, 1068, 1125, 1148. Tasikmalaja, Preanger. 1145'.

Dobson's Catalogue measurement of 1·4 in. for the forearm of *K. hardwickei* is more than any of these specimens show, as they run from 31–33 mm., therefore only rarely reaching 1·3 in., which was the size of his *K. fusca*, later synonymized by him with *K. hardwickei*.

35. *MINIOPTERUS BLEPOTIS* Temm.

♂. 1396, 1398, 1399, 1500, 1518, 1519, 1533, 1534, 1536, 1537. ♀. 1393, 1394, 1395, 1397, 1400, 1401, 1402, 1516, 1517, 1535. 9 ♀ and 1 ♂ in al. Kalipoetjang, Tji-Tandoei R.

♂. 1152. ♀. 1151. Soekaboemi, Preanger.

Topotypes. Temminck gives length of forearm as 45·5 to 47·5; the present series vary from 44·5 to 46, but those of the two specimens from Soekaboemi measure 50 mm.

36. *MINIOPTERUS MEDIUS*, sp. n.

♂. 1498. ♀. 1497, 1499, 1501, 1502. And 1 ♂, 2 ♀ in al. Kalipoetjang, Tji-Tandoei R.

A *Miniopterus* intermediate in size between *M. blepotis* and *M. tibialis*.

Not differing materially in outward facies from *M. blepotis*, except in size. Black and red phases of colouring of the coat present as is usual in the genus.

Dimensions of the type, the starred measurements taken in the flesh :—

Forearm 42 mm.

Head and body *55; tail *47; hind foot *9; ear *12; terminal phalanx of middle finger 35.

Skull: greatest length 15; basi-sinual length 11·5; brain-case breadth 7·5; greatest width across canines 6·5; front of p⁴ to back of m³ 4·4.

Hab. Kalipoetjang, Tji-Tandoei R., Java.

Type. Adult female. B.M. No. 9.1.5.464. Original number 1499. Collected 4 March, 1908.

37. *MINIOPTERUS TIBIALIS* Tomes.

♂. 1451, 1453, 1454, 1456, 1457, 1458, 1483, 1486, 1492. ♀. 1449, 1450, 1452, 1455, 1459, 1460, 1481, 1482, 1484, 1485, 1487, 1488, 1489, 1490, 1491. And 5 ♀ in al.

38. *EMBALLONURA MONTICOLA* Temm.

♀. 1514. Kalipoetjang, Tji-Tandoei R., S. Java.

♂. 1602, 1628, 1629, 1634, 1636, 1664, 1672. ♀. 1600, 1601, 1612, 1630, 1635, 1659, 1660, 1661, 1662, 1663, 1665, 1666, 1668,

1669, 1670, 1671, 1673. Pangandaran, Dirk de Vries Bay, S. Java.

Most of these specimens are rather larger than is indicated in Temminck's description, which gives a forearm length of "1 duim 7 lijnen" (=43 mm)*. Their forearms range from 43.5 to 48 mm.

39. *TAPHOZOUS LONGIMANUS* Hardw.

♂. 6. Batavia. Sea-level.

♂. 672. Tjilatjap. Sea-level.

These specimens are paler than usual, but this may be due to bleaching, or to a variation of the same nature as that found in Blyth's "*fulvidus*."

40. *TAPHOZOUS THEOBALDI* Dobs.

♂. 1415, 1417, 1418, 1419, 1420, 1469, 1479, 1480, 1496.
♀. 1416, 1426, 1478, 1495. Kalipoetjang, Tji-Tandoei R., S. Java.

3 ♂, 5 ♀ in spirit. Do.

This rare Bat was hitherto only known from the typical specimens in the Calcutta Museum, of which one has been given to the British Museum, and has enabled us to compare Mr. Shortridge's specimens with it. We can find no essential difference between the Javan and Tenasserim forms, although when fresh skins of the latter are available some difference in colour may prove to exist.

As represented by the Javan specimens, *T. theobaldi* has a blackish throat, recalling the black beard of *T. melanopogon*, but the black is not so deep nor so sharply defined laterally as in that animal.

41. *TAPHOZOUS SACCOLAIMUS* Temm.

♀. 1363. Tasikmalaja, Preanger.

42. *CHEREAPHON PLICATUS* Buch.-Ham.

♂. 58, 59, 62, 112. ♀. 57. Buitenzorg. 850'.

♂. 535, 537. ♀. 508, 534, 536. Soekaboemi.

♂. 946, 947, 948, 949, 950, 952, 954, 955, 956, 957, 971.

♀. 951, 953. Tjilatjap.

♀. 1290. Tasikmalaja, Preanger. 1150'.

And 1 ♂, 5 ♀ in al. Batavia.

Represent Horsfield's *Nyctinomus tenuis* and *dilatatus*.

The Tjilatjap specimens Nos. 946-957 are all quite young.

"Very active on the ground, and even when young and unable to fly is able to run about like a mouse, especially in rough situations."—G. C. S.

* Not 40 as stated by Miller, who has taken Temminck's measurement as though the inches were English ones instead of French. As a consequence, there is no difference at all in size between *E. monticola* and *E. peninsularis* Miller.

43. *GALEOPTERUS VARIEGATUS* Geoff.

♂. 213. Batavia.

♂. 1720, 1727, 1729, 1731 imm.; 1775, 1776. ♀. 1610, 1716, 1717, 1724, 1730, 1778, 1779 imm. Pangandaran, Dirk de Vries Bay.

“ ‘Tāndo’ (Soendanese). ‘Wālang-kōpo’ (Javanese). ”

“Nocturnal. This animal possesses a very strong and peculiar smell, which originates from an open gland at the root of the tail. This gland is in the form of a shallow pouch—more developed in the males—and, during life, a vivid orange in colour. The fur of the normal-coloured variety of the species has a distinct suffusion of green during life that at once disappears when the skin is dry. This peculiarity is also noticeable in *Tupaia*.”—G. C. S.

44. *TUPAIA JAVANICA* Horsf.

♂. 148, 174, 175, 189, 247, 248. ♀. 51, 52, 156, 246. Buitenzorg.

♂. 750. ♀. 679. Tjilatjap.

♂. 485. ♀. 473. Tji Wangie, Preanger.

♂. 1009, 1010, 1023, 1046, 1047, 1052, 1094, 1130, 1167, 1210, 1211, 1213, 1239, 1240, 1248, 1254, 1292. ♀. 1018, 1019, 1020, 1021, 1037, 1053, 1075, 1157, 1158, 1166, 1168, 1169, 1222, 1227, 1241, 1247, 1253. Tasikmalaja, Preanger.

“ ‘Kēkkas’ (Soendanese). ‘Emēss.’ ”

“Diurnal—bearing an extraordinary resemblance to the smaller squirrels both in habits and movements; frugivorous and insectivorous.”—G. C. S.

45. *CROCIDURA* sp.

♀. 45. Buitenzorg.

46. *PACHYURA MURINA*.

♀. 13. Batavia.

♂. 47, 63, 75, 79, 147, 163, 179, 188. ♀. 28, 46, 56, 64, 144, 187, 190, 203. Buitenzorg.

♂. 881. Tjilatjap.

“ ‘Tēkoos-tjerōot’ or ‘Chulerōot’ (Jav., Soend., Mal.). ”

“Probably originally introduced.

“Both species of Shrew seem to be most plentiful in thickly populated localities, especially around seaport towns.”—G. C. S.

47. *FELIS PARDUS* L.

1307 (black variety). Tasikmalaja, Preanger.

1156, ♂ 1294. Tasikmalaja, Preanger.

1260. Pangandaran, Dirk de Vries Bay.

“ ‘Mātjan-tootool’ (Soend., Jav.). ‘Mātjan-kāmbang’ (black var.). ”

“Comparatively plentiful throughout Java, particularly in mountainous and thinly populated districts.”—G. C. S.

48. *FELIS JAVANENSIS* Desm.

239, 1328, 1329 imm., 1330. Batavia.

♂. 53 imm., 110 imm., 171, 855 imm. Buitenzorg.

♂. 1685 imm., 1686 imm. Pangandaran, Dirk de Vries Bay.

♂. 791. Tjilatjap.

♂. 1165, 1233 imm., 1245 imm., 1364 imm. ♀. 1257 imm., 1367 imm., 1368 imm. Tasikmalaja, Preanger.

“ ‘Méong-chôngkok’ (Soendanese). ‘Blâtjan’ (Javanese).

“Very plentiful. Appears to occasionally cross with the domestic cat.

“The domestic cats in Java almost invariably have distorted tails, which are either stunted or have the appearance of being disjointed, often in several places, the end being sometimes almost at right angles with the base; very few, except recently imported individuals, possess perfect tails.”—G. C. S.

49. *VIVERRICULA RASSE* Horsf.

18, 230, 231, 233 imm., 234, 236. ♀. 37, 227. Batavia.

164, 167 imm. ♀. 39, 169. Buitenzorg.

♂. 741 imm., 742 imm., 847 imm., 970 imm. Tjilatjap.

♂. 1127, 1164, 1242, 1284 imm., 1285 imm., 1286 imm., 1293, 1298. ♀. 1058, 1209, 1224, 1244, 1297 imm., 1299 imm. Tasikmalaja, Preanger.

“ ‘Rässie’ (Malay). ‘Deddëss’ (Soendanese).

“Very plentiful. It is curious that so many of the native mammals in Java, especially the small carnivores, abound in the densely populated districts. *Viverricula*, *Paradoxurus*, *Mungos*, *Felis javanensis*, etc., seem to have entirely adapted themselves to an artificial, almost semi-domestic life, existing in abnormal numbers around towns and native villages, where they probably live almost exclusively on the swarms of house-rats and poultry that are always in such numbers in the vicinity of houses. *Viverricula* is often kept alive, or hunted for by the natives, who collect its civet either as a perfume or for flavouring their tobacco.

“It is astonishing how many even of the carnivorous mammals of Java are partly frugivorous. In fact, there are few, if any, mammals of any kind there that will not feed on bananas.”—G. C. S.

50. *PARADOXURUS JAVANICUS* Horsf.

♂. 43, 162, 194. ♀. 44, 55, 70, 131, 202. Buitenzorg.

1331, 1332, 1333. Batavia.

♂. 1525. Kalipoetzang, Tji-Tandoei River.

♂. 1783 (imm.). ♀. 1706. Pangandaran, Dirk de Vries Bay.

♀. 935. Tjilatjap.

♂. 1133 imm., 1134 imm., 1163, 1258 imm. ♀. 1098 imm., 1150 imm., 1153 imm., 1154 imm., 1214 imm., 1251 imm., 1259 imm., 1260 imm., 1369 imm., 1370 imm. Tasikmalaja, Preanger.

“‘*Lōoark*’ (Jav.). ‘*Tjareuh*’ (Soend.).

“Very plentiful, largely frugivorous. Known in Java as the Coffee-Cat, on account of its habit, when in the neighbourhood of coffee-plantations, of feeding largely on the berries. The undigested berries, which are afterwards dropped, are found in heaps and carefully collected by the natives, and as the animals pick out the ripest and best fruit, *Lōoark*-coffee is considered the finest.

“Around houses it is often considered a useful factor in keeping down the enormous numbers of house-rats that overrun so many parts of Java; it is, however, frequently very destructive to poultry. Often hides by day in the roofs of houses or out-buildings. Although its general scent resembles that of *Viverricula*, its gland-pouch is more or less rudimentary and does not produce civet.”—G. C. S.

51. *CUON JAVANICUS* Desm.

♂. 150 imm. Buitenzorg Museum.

“‘*Adjac.*’ ‘*Gārong*’ (Soendanes). ‘*Āndjing-oōtan*’ (Malay).

“Confined to the more inaccessible and mountainous parts of Java. Said to be fairly numerous among the mountains of East Java.

“I think that the native Campong-dog has most probably at least partly originated from this species, and that *C. javanicus* will, like the Dingo of Australia, occasionally cross with domestic varieties.”—G. C. S.

52. *ARCTICIS BINTURONG* Raff.

1308. Near Tasikmalaja.

“‘*Matjan-thongkok.*’ ‘*Saro-garlong.*’

“Apparently rare in Java. Said to frequent the banks of rivers.”—G. C. S.

53. *MUNGOS JAVANICUS* E. Geoff.

232, 1320, 1321, 1322, 1323, 1324, 1325, 1326. ♂. 228. Batavia.

♂. 71 imm., 191 imm., 192 imm. Buitenzorg.

♂. 896. ♀. 846 imm. Tjilatjap.

♂. 1304. ♀. 1235, 1250, 1283, 1291. Tasikmalaja, Preanger.

“‘*Garāngan*’ (Jav.). ‘*Gānggarāngan*’ (Soendanes).

“Fossorial; principally nocturnal; very plentiful.”—G. C. S.

54. *HELICIS ORIENTALIS* Horsf.

153, 154. Buitenzorg Museum.

♂. 205. Buitenzorg.

♂. 1234 imm. ♀. 1225, 1243. Tasikmalaja, Preanger.

“‘*Beool*’ (Soendanes).

“Nocturnal and fossorial. This species has no offensive smell. Probably mimics *Mydaus* in its coloration, and like that animal it frequents mountainous localities.”—G. C. S.

55. MYDAUS JAVANENSIS Desm.

483. ♀. 478. Tji Wangie, Preanger.

♂. 149 imm., 152, 168, 178, 197 ♀. 145, 195, 200.
Buitenzorg.

The specific name *meliceps*, given by F. Cuvier, Mamm. pl. 129, April 1821, is antedated by *javanensis* Desmarest, Mamm. p. 187, 1820; and as both were based on a specimen collected by Leschenault de Latour, there can be no question as to their identity.

“‘Segoong’ (Soendanese).

“Nocturnal and fossorial. Rather sluggish in its movements. Its offensive smell, especially when disturbed or irritated, can hardly be exaggerated. Plentiful in the mountainous districts of West Java.”—G. C. S.

56. LUTRA CINEREA Ill.

♂. 1684. ♀. 1682. Pangandaran, Dirk de Vries Bay.

♂. 34 imm., 77 imm., 170 imm. ♀. 33 imm., 78 imm.
172 imm. Buitenzorg.

1314 imm. Batavia Museum.

♂. 25 imm. Batavia.

“‘Sāro’ (Javanese; Soendanese). ‘Linsang’ (Jav.).

“Nocturnal; plentiful in swampy places and along the sea-shore.”—G. C. S.

57. PETAURISTA NITIDA Desm.

157, 158. Buitenzorg Museum.

477. Tji Wangie, Preanger.

“‘Belook’ (Soend.). ‘Koo-boong.’

“Nocturnal; apparently local. Said to be fairly plentiful in some districts.”—G. C. S.

58. SCIUROPTERUS (HYLOPETES) SAGITTA L

S. lepidus Horsf., auct.

♂. 897. ♀. 898. Maos, near Tjilatjap.

♂. 1626, 1627, 1790. ♀. 1625, 1791. Pangandaran, Dirk de Vries Bay.

♂. 1427. Kalipoetjang, Tji-Tandoei R.

We think we may venture now definitely to determine Linnaeus's *Sciurus sagitta*, which has been so long a puzzle to workers on this group, its name having been assigned to quite a number of different forms. Its locality is stated to be Java, and in that island there are only two Flying Squirrels of which the phrase “*statura Sciuri vulgaris*” could be used, namely, *S. lepidus* Horsf. and *S. genibarbis* Horsf., and from the latter of these it is separable by “*seta una in mala*,” sufficiently applicable to the present animal. One statement only is inconsistent with this conclusion, namely “*cutis extensa a capitis ad carpum*,” as though there were an antebrachial membrane as in the genus *Petaurista*.

But as the specimen was clearly adult ("*scrotum magnum*") it could not have been a young *Petaurista nitida*, and we can only suppose that there was some error of observation in the matter of the antebrachial membrane.

S. sagitta is a *Hylopetes* nearly allied to *S. aurantiacus*, *spadiceus*, and *everetti*.

"'Mon-mon' (Soendanesse). 'Choobok' (Javanese). 'Ēntjang-ēntjang.'

"*Sciuropterus* and *Petaurista* are nocturnal, while all the other Javanese Squirrels seem to be diurnal.

"*S. sagitta* chiefly occurs among cocoanut-plantations, and either makes its nest in an empty cocoanut or among leaves at the top of a palm."—G. C. S.

59. RATUFA BICOLOR Sparrm.

155 (juv.). Buitenzorg Museum.

♂. 1381, 1382, 1425, 1520, 1522, 1526, 1529, 1530. ♀. 1378, 1513, 1527, 1528, 1531. Kalipoetjang, Tji-Tandoei River.

♂. 1698, 1710, 1711, 1723. ♀. 1683, 1722, 1725, 1726. Pangandaran, Dirk de Vries Bay.

♂. 1295. ♀. 1057. Tasikmalaja, Preanger.

"'Bādjing-djalarang' (Soend.) (Jav.).

"In uncultivated forest-districts; local, often very plentiful where it occurs."—G. C. S.

60. SCIURUS NOTATUS Bodd.

♂. 1, 3 (imm.), 15 (imm.). ♀. 2, 19. Batavia.

♂. 31, 49, 54, 245. Buitenzorg.

♂. 1468. ♀. 1532. Kalipoetjang, Tji-Tandoei River.

♀. 1613. Pangandaran, Dirk de Vries Bay.

♂. 603, 612, 624, 625, 629, 630, 631, 680, 801 (imm.). ♀. 607, 619, 623, 632, 633, 681. Tjilatjap.

Examination of this series proves that Bonhote's *S. andrewsi** from Tjigombong cannot be separated from *S. notatus*.

"'Bādjing-klāpa' of natives.

"Very abundant among cocoanut-plantations in low-lying country. In the mountainous and uncultivated localities its place is taken by *Sciurus nigrovittatus*. Although feeding on most fruits, it seems to be especially partial to the cocoanut-palm, to which it is very destructive. When feeding on a cocoanut it bores a circular hole in one side of the shell. Natives frequently fasten a piece of sheet tin around the trunks of the palms about halfway up, as the tin offering no foothold prevents the squirrels from ascending to the fruit."—G. C. S.

61. SCIURUS NIGRO-VITTATUS Horsf.

♂. 36 (imm.), 48, 186 (imm.), 244, 469. Buitenzorg.

♀. 1380, 1503. Kalipoetjang, Tji-Tandoei R.

* Ann. Mag. N. H. (7) vii. p. 456, 1901.

♂. 618, 747, 751, 752, 753, 754, 780, 781. ♀. 635, 748, 782, 789. Tjilatjap.

♀. 471, 472, 488, 489 (imm.). Tji Wangie, Preanger.

♂. 743, 745. ♀. 744, 746. Noesa Kambangan Island.

“ ‘Bādjing-ootan.’ ”

“ Very plentiful in all the forest-districts. Unlike *S. notatus* it avoids cultivation. Partly insectivorous.”—G. C. S.

62. *LARISCUS** *INSIGNIS* JAVANUS.

Laria insignis javana, Thos. & Wr. Abstr. P. Z. S. 1909, p. 19.

♂. 65. Buitenzorg.

♂. 484. Tji Wangie, Preanger.

A *Lariscus* of the same general pattern as *L. insignis*, but rather larger and stouter, and darker in coloration than any of the races of that species.

Size rather larger than *L. insignis* of Sumatra. Fur about 15 mm. in length on the back, 30–35 mm. on the tail. General colour-pattern as in the various races of *L. insignis*, but differing from all of them in the darkness of the interspaces between the dorsal stripes. Individual hairs of tail black, with a buff band (5 mm. broad) at 5 mm. from the base, and with a white tip (5 mm.); the outer black band (15 mm.) is much broader than in other forms of *L. insignis*, in which it measures at most 10 mm.

Skull with a long pointed muzzle, palatilar length 24 mm. as compared with 19–22 mm. in *L. insignis* and its Malayan forms. Teeth larger and stouter. Profile of skull much flatter.

Dimensions of the type:—

Head and body 220 mm.; tail (broken); hind foot 47; ear 18.

Skull: greatest length 53; basilar length 41; zygomatic breadth 28; interorbital breadth 14; palatilar length 24; diastema 14; upper tooth-series, exclusive of p^3 9.3.

Hab. Java (type from Buitenzorg). Alt. 855'.

Type. Adult male. B.M. No. 9.1.5.718. Original number 65. Collected 2 August, 1907.

The second specimen, an old male, from Tji Wangie, Preanger (alt. 4000'), agrees with the type in all essential characters. The dark dorsal area, the broad black longitudinal stripe of the tail, the long narrow muzzle, and large stout teeth serve easily to distinguish this subspecies from typical *L. insignis* and its Malayan races, *peninsulæ* and *jalorensis*.

“ ‘Bo-oot’ (Soendanese).

“ Mountainous districts.”—G. C. S.

63. *NANNOSCIURUS MELANOTIS* Müll. & Schl.

♂. 208. ♀. 209. Buitenzorg.

* Nom. nov. *Laria* Gray, 1867, nec Scopoli, Entomol. Carniol. p. 21, 1763. Type *L. insignis*.

64. *CHIROPDOMYS ANNA*.

Thos. & Wrought. Abstr. P. Z. S. 1909, p. 19.

♂. 501, 503. ♀. 502. Kattamanah, Soekaboemi.

♂. 674, 860, 932. ♀. 799, 822. Tjilatjap.

♂. 1212, 1237, 1256, 1361. ♀. 1128, 1129, 1246, 1306. Tasikmalaja, Preanger.

151, 193 Java.

A *Chiropodomys* outwardly resembling *C. gliroides*, but with a smaller skull and teeth.

Size intermediate between the Bornean *C. major* and *C. pusillus*. Fur rather short (6–7 mm. on the back), but close and fairly soft.

General colour above between “isabella” and “fawn,” the individual hairs being “slate-colour” with “russet” tips; under surface pure white, the hairs white to their bases. Hands and feet whitish, the latter with dark central line above. Tail nearly half as long again as the head and body.

Dimensions of the type (the figures in brackets are those of a specimen of *gliroides* of similar age from Tenasserim):—

Head and body 87 mm.; tail 112; hind foot 18; ear 16.

Skull: greatest length 24 [26]; basilar length 8·5 [20·5]; zygomatic breadth 14 [15]; brain-case breadth 11·6 [13]; diastema 6·3 [7·3]; palatal foramina 3 [4·3]; upper molar series 3·8 [4].

Hab. Tjilatjap, Java (sea-level).

Type. Adult female. B.M. no. 9.1.5.757. Original number 822. Collected 27 Nov., 1907.

Eighteen specimens examined, of both sexes and all ages.

In many respects this species is intermediate between the mainland *C. gliroides* Bly. (syn. *peguensis* Bly., *penicillatus* Pet.) and the Sumatran *C. niadis* Miller.

“Tēkoos-klapa, Tēkoos-sarwa, Nying-Nying.

“Arboreal; similar in habits to the dormouse, making small grass nests among bamboos or the heads of palm-trees.

“Very plentiful in many localities; seems to feed to a large extent among rice-fields.”—G. C. S.

65. *MUS RATTUS* (*neglectus* group).

♂. 17. ♀. 4. Batavia.

♂. 40, 50, 84, 199. ♀. 32, 122, 133. Buitenzorg.

♂. 628, 638, 641, 682, 738, 936. ♀. 639, 640, 664, 665, 821, 883, 884, 943. Tjilatjap.

♂. 1115, 1201, 1202, 1208, 1252, 1262, 1264, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1274, 1275, 1276, 1277, 1278, 1372, 1374, 1375. ♀. 1022, 1040, 1041, 1220, 1249, 1261, 1263, 1265, 1273. Tasikmalaja, Preanger.

♂. 1538. Kalipoetjang, Tji-Tandoei River.

“‘Tēkoos’ of natives.

“Swarming throughout Java, particularly in thickly populated localities.”—G. C. S.

66. *MUS* sp. (*concolor* group).

♂. 495, 497. ♀. 494, 496, 498.

67. *MUS MUSCULUS* Linn.

♀. 30, 73, 141. Buitenzorg.

♂. 646, 864. Tjilatjap.

♂. 583. ♀. 584. Soekaboemi.

♂. 1279, 1280, 1281, 1282. Tasikmalaja, Preanger.

68. *BANDICOTA SETIFERA* Horsf.

♂. 1051. Tasikmalaja, Preanger.

♂. 1611. Pangandaran, Dirk de Vries Bay.

The first specimens of the Javan Bandicoot received since the arrival of the original co-type, a faded and deteriorated skin transferred from the Indian Museum in 1879.

Hermann's *Mus javanus* might have been supposed to have been this species were it not for his distinct statement that its feet were white, while in *B. setifera* they are dark brown. There is, I think, little doubt that *M. javanus* was based on an example of *Mus norvegicus*.

“‘Tēkoos-djantang.’ ‘Tēkoos-ia.’ ‘Tēkoos-besār.’

“Said to prefer swampy localities and to live in holes in the ground, often among rice-fields.”—G. C. S.

69. *HYSTRIX JAVANICA* F. Cuv.

237, 1310, 1311, 1312, 1313. Batavia.

♀. 176. Buitenzorg.

♀. 669. Tjilatjap.

♀. 1631. Pangandaran, Dirk de Vries Bay.

“‘Landark’ of natives.

“Nocturnal and fossorial; plentiful in many localities, said to do considerable damage among rubber-plantations.”—G. C. S.

70. *LEPUS NIGRICOLLIS* F. Cuv.

240, 241, 242, 1315, 1316, 1317, 1318. ♀. 243. Batavia.

♂. 146, 207. ♀. 177 imm., 204 imm., 206 imm. Buitenzorg.

“‘Klintji’ (Malay).

“Very local; apparently confined to the north-west of Java. Plentiful among sugar-cane plantations around Batavia and Buitenzorg. Probably originally introduced; said to be plentiful in Sumatra.”—G. C. S.

71. *SUS VERRUCOSUS* Müll. & Schleg.

♂. 662, 793, 882. ♀. 666, 667, 669. Tjilatjap.

♂. 1687, 1694 (imm.), 1708, 1785, 1786. ♀. 1688, 1693 (imm.), 1782 (imm.). Pangandaran, Dirk de Vries Bay.

♂. 1466. ♀. 1467. Kalipoetjang, Tji-Tandoei River.

♂. 1149, 1305, 1366. ♀. 1300. Tasikmalaja, Preanger.

“ ‘Bābbi’ (Malay). ‘Tjelleng’ (Javanese). ‘Bāgong’ (Soendaneese). ‘Bāgong-gādoong’ (Soendaneese). ‘Bāgong-wīraha.’

“Taking the place of *Sus vittatus* in the inland mountainous districts of Java, but also occasionally occurring with it near the coast.”—G. C. S.

72. *TRAGULUS FOCALINUS* Miller.

1315. Batavia.

♀. 1238. Tasikmalaja, Preanger.

♀. 621, 683. Tjilatjap.

♂. 1606, 1695, 1699, 1702, 1703, 1718, 1719, 1728, 1735.

♀. 1646, 1667, 1676, 1696, 1697, 1700, 1701, 1704, 1705, 1713, 1714. Pangandaran, Dirk de Vries Bay.

“ ‘Kantjil’ (Malay). ‘Poōtjang’ (Soendaneese).

“Plentiful in dense forests, particularly in thinly populated districts.

“I could get no information of more than one species of *Tragulus* on the mainland of Java.”—G. C. S.

73. *MUNTIACUS MUNTJAK* Zimm.

♂. 1771. ♀. 1732. Pangandaran, Dirk de Vries Bay.

“ ‘Kidang’ (Javanese). ‘Muntjac’ (Malay, Soendaneese).

“The uncultivated parts of Java, particularly in hilly situations.”—G. C. S.

74. *MANIS JAVANICA* Desm.

♂. 210, 211. Buitenzorg.

♂. 1005. Tasikmalaja, Preanger.

♂. 1306. Batavia.

♀. 1691. Pangandaran, Dirk de Vries Bay.

“ ‘Poisīng’ (Soendaneese). ‘Tringilling’ (Javanese)

“Fairly plentiful, chiefly in forest country.”—G. C. S.

April 6, 1909.

FREDERICK GILLET, Esq., Vice-President, in the Chair.

The Secretary exhibited, on behalf of Mr. George Jennison, some fertilized eggs from a pair of Seba Pythons in the Belle Vue Zoological Gardens, Manchester, and read the following account of them:—

“The Belle Vue snake-cage is 75 feet long by 10 by 12, forming an annexe to a greenhouse and composed (except the back) entirely of glass. A minimum temperature of 80° is aimed at, and an inner case, in which sat the Seba Python mentioned below, is

provided for retreat from extreme cold. Numerous hanging baskets of growing plants and a wired-off portion which is one mass of tropical vegetation beautify the cage, and make an atmosphere and surroundings congenial to the serpents. These things have had, I believe, great influence in the production of eggs. Only one batch was laid during 10 years in our old snake-cages, whereas, beginning April 1904, there have been six lots of eggs in the new cage, which was first occupied in the summer of 1903.

"Hitherto, with perhaps one exception, the eggs have not been fertilized, but only once has the snake failed to incubate them for a considerable period. And on one occasion a Python *Molurus* permitted herself and eggs to be moved from one situation to another without decreasing her ardour.

"The sitting of a Seba Python, which commenced Dec. 21st and terminated at the 4th of February this year, would probably have been successful had she not been lying on an air-grating, where the temperature would approximate to 120°. The eggs, which were perfectly white, through the whole period were pressed and flattened out of spherical shape until they closely resembled a plaque of white excreta. The reptile sat upon them very assiduously, but left the nest for about 10 minutes morning and evening to drink, and for about half an hour every fortnight when feeding, which she did regularly on dead rabbits during the whole period.

"During the period of incubation the Python grew more vicious, turning upon the keeper several times and occasionally striking at visitors.

"Nevertheless, she in no way resented the presence of the dozen or more snakes which crowded into the same case in the cold January days, but which usually kept as far from her as possible (about 5 feet); the male Python alone lying at her side.

"This pair of Seba Pythons was purchased from Mr. Lyster Jameson last summer, and had been, I believe, on deposit at Regent's Park for some time previously.

"Slough of female 15 feet long."

Dr. R. T. Leiper, F.Z.S., exhibited a greatly distorted Elephant's tusk from the Congo, and a malformed canine tooth of a Hippopotamus from Uganda, and stated that the conditions most probably had originated from mechanical injury.

Mr. E. T. Newton, F.R.S., F.Z.S., exhibited a metatarsal bone of an Ox, showing in a remarkable manner the marks of gnawing by rodents, possibly Squirrels, Rats, or Mice, which he had found in the woods near Cromer.
